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 TI **Copper** alloys as lead-frame materials of semiconductor devices  
 PA Sumitomo Electric Industries, Ltd., Japan  
 SO Jpn. Tokkyo Koho, 4 pp.  
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	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 57056215	B4	19821129	JP 1977-4007	19770119
PRAI	JP 1977-4007		19770119		
AB	<b>Cu</b> alloys containing 0.02-0.3% <b>Ag</b> and 0.03-0.3% <b>Sn</b> (with <b>Ag</b> + <b>Sn</b> 0.1-0.5%) are used as packaged lead-frame materials for semiconductor devices. Thus, cast ingot (140 + 140 + 2000 mm) of <b>Cu</b> alloy [85759-48-4] containing 0.11 <b>Sn</b> and 0.15% <b>Ag</b> was hot-rolled to a 8 mm thick plate, cold-rolled, internally softened, and cold-rolled to sheet 0.6 mm thick. The sheet was annealed 3 h at 420°, and temper-rolled to 0.4 mm thickness. This sheet had thermal expansion coefficient 1.77 + 10-5/degree, tensile strength 36.5 kg/mm2, and elec. conductivity 89% of International Annealed <b>Cu</b> Standard				